



**Legislative Testimony of the Connecticut Green Bank**  
Energy and Technology Committee  
February 24, 2022

**Regarding Senate Bill 91**  
**AN ACT REQUIRING THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION TO REPORT ON BATTERY-STORAGE TECHNOLOGY**

*As the nation's first green bank, the Connecticut Green Bank ("Green Bank") leverages the limited public resources it receives to attract multiples of private investment to scale up clean energy deployment. Since its inception, the Green Bank has mobilized \$2.14 billion of investment into Connecticut's clean energy economy at a 7.4 to 1 leverage ratio of private to public funds, supported the creation of 25,612 direct, indirect and induced jobs, reduced the energy burden on over 63,000 families and businesses, deployed over 494 MW of clean renewable energy, helped avoid 9.9 million tons of CO2 emissions over the life of the projects, and generated \$107.4 million in individual income, corporate, and sales tax revenues to the State of Connecticut.*

**The Green Bank Supports Senate Bill 91**

Based on the Green Bank's reading of Senate Bill 91 "An Act Requiring the Department of Energy and Environmental Protection ("DEEP") to Report on Battery-Storage Technology" ("the Bill"), the Bill would:

- **Environmental Impact Report** – require DEEP to submit a report to the Energy and Technology Committee ("the Committee") on or before January 30, 2023 on the impact on the environment due to the process of acquiring component materials of battery-storage technology and the disposal of such technology after its useful life.

As the Committee is aware, through the bipartisan support of Public Act 21-53 "An Act Concerning Energy Storage," a 1000 MW energy storage target by the end of 2030 was established.<sup>1</sup> The Public Utilities Regulatory Authority ("PURA") through a July 28, 2021 decision within Docket No. 17-12-03RE03 ("Storage Decision"),<sup>2</sup> determined that the Green Bank, along with the Electric Distribution Companies, collectively the "Program Administrators", would jointly administer a battery storage incentive program ("the Program" or "Energy Storage Solutions") to deploy no less than 580 MW of behind-the-meter residential and non-residential battery storage by the end of 2030. In a subsequent PURA decision within Docket No. 21-08-05,<sup>3</sup> PURA requested that the Program Administrators

<sup>1</sup> 300 MW by December 31, 2024; 650 MW by December 31, 2027; and 1,000 MW by December 31, 2030.

<sup>2</sup> PURA Investigation into Distribution System Planning of the Electric Distribution Companies – Electric Storage

<sup>3</sup> Annual Review of the Electric Storage Program – Year 1

include a section on system disposal in line with the direction provided in Section V. H of the Storage Decision in the Program Manual.

#### Section V. H. System Disposal

The Program Administrators shall require that the decommissioning of any electric storage system participating in the Program be completed by the operations and maintenance provider of the system, or by the original engineering, procurement, and construction (EPC) contractor. The Program Administrators shall include any language formalizing such a requirement in the Program Design Documents. The Authority reserves the right to further address the decommissioning process for participating systems in a future Annual or Program Review.

#### Program Manual for Energy Storage Solutions – Section 9: System Disposal

##### Eligible Contractor and Third-Party Owner Responsibilities

The decommissioning of any BESS participating in Energy Storage Solutions shall be completed by the Contractor, TPO, or another party as designed by the Contractor or TPO. The Contractor or TPO shall be held responsible by the Program Administrators for ensuring that all appropriate steps have been taken to dispose of and recycle all BESS components in such a manner that minimizes waste and environmental harm in compliance with all local, state, and federal regulations.

In addition to the system disposal requirements within the Program, to support the market development for battery storage in Connecticut, the Green Bank is undertaking the following:

- **Storage End of Life Study** – The Green Bank has commissioned a study to assess the current capabilities of Connecticut to dispose of BESS installed through Energy Storage Solutions. The study will examine Connecticut's current and projected waste processing facilities, infrastructure to support transport to out-of-state facilities if necessary, and the associated costs of disposal. The study will specifically examine the materials of technology approved for use in Energy Storage Solutions.
- **Assessment of Competitive Federal Funding Opportunities** – per the bipartisan passage of Public Act 21-115 “An Act Concerning Climate Change Adaptation,” the scope of the Green Bank was expanded beyond “clean energy” to include “environmental infrastructure” – which includes “waste and recycling”. The Green Bank is assessing the following opportunities within the recently passed Infrastructure Investment and Jobs Act of 2021 by the US Government:<sup>4</sup>
  - **Battery Manufacturing and Recycling Grants** – \$3 billion from the Department of Energy (“DOE”) available for grants to various recipients (including for-profit private entities, and state and local governments) to ensure that the United States has a viable domestic recycling capability to support a North American battery supply chain, including resources to support construction of commercial-scale facilities, or retrofitting or retooling existing facilities for recycling.

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<sup>4</sup> <https://www.whitehouse.gov/build/>

- **Battery Materials Processing Grants** – \$3 billion from the DOE available for grants to various recipients (including for-profit private entities, and state and local governments) for battery materials processing to ensure that the United States has a viable battery materials processing industry, including resources to support construction of commercial-scale facilities, or retrofitting or retooling existing battery material processing facilities.
- **Energy Efficiency and Conservation Block Grant Program** – \$550 MM from the DOE available for block and competitive grants to state and local governments for a number of eligible uses, including activities to increase participation and efficiency rates for material conservation programs, including recycling.
- **Battery and Critical Mineral Recycling** – \$125 MM from the DOE for grants to various recipients (including private battery-collection entity, state or municipal government entity, and battery retailer) for research, development, and demonstration projects to create innovative and practical approaches to increase the reuse and recycling of batteries.

The Green Bank supports the need to appropriately recycle battery storage technology at the end of its useful life.

Please find attached to this testimony the Green Bank's Decennial Societal Impact Report and Energy Storage Solutions program fact sheets.

Questions on this document may be submitted to Matt Macunas, Legislative Liaison and Associate Director of Regulatory Policy, reachable at [matt.macunas@ctgreenbank.com](mailto:matt.macunas@ctgreenbank.com) or at (860) 257-2889.



## Introducing Energy Storage Solutions

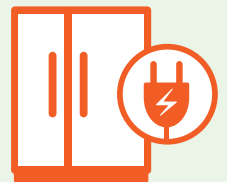
Energy Storage Solutions is a new incentive program designed to help Eversource and United Illuminating customers install energy storage for their home. Installing a battery in your home can help you be prepared when extreme weather events are on the horizon. Batteries can provide backup power when the electricity goes out to keep your lights, small appliances, and medical equipment running without the need to run an onsite generator. Plus, batteries work even better when you add them to an existing solar PV system or pair them with a new one, allowing batteries to recharge with the sun's energy.

## Battery Benefits

**Cleaner / Quieter:** Unlike generators that run on fossil fuels, batteries are a cleaner, quieter option for powering your home during an outage.



**Resilient:** With battery storage, you're always ready for a storm without needing to buy or store fossil fuels. Keep your lights on and your refrigerator running without the stress and hassle.



**Affordable:** With Energy Storage Solutions, it's more affordable than ever to purchase a battery system. Upfront and performance-based incentives allow you to save money at the time of purchase and over the life of your system. Residential customers could receive up to \$7,500 upfront per installation with additional incentives as your system contributes to the utility grid. Visit <https://energystoragect.com/>.

# How Do I Get Started?

Talk to an eligible contractor who will help you size a battery system based on what you want to power, how long you want to power it, and where you have suitable space to install a battery system.

## 1 What do you want to power in an outage?

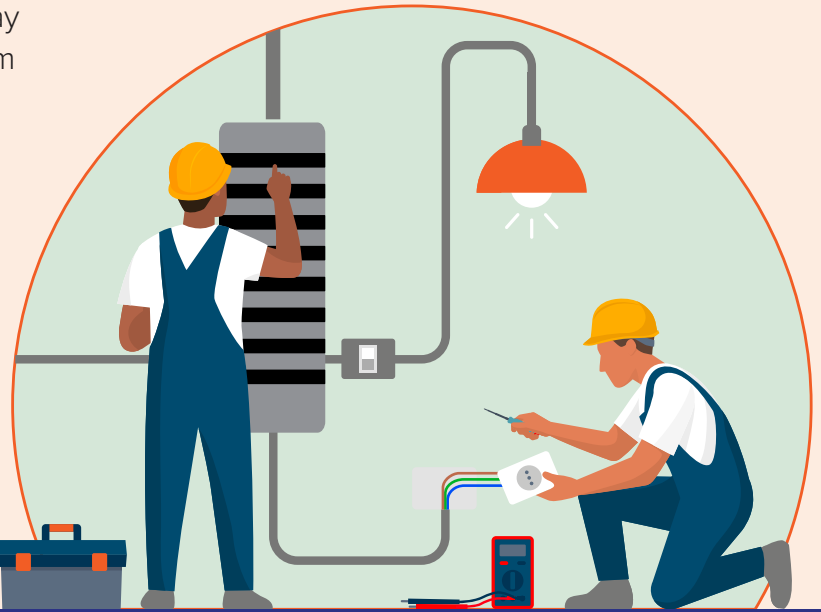
Your contractor will look at the appliances, lighting, or priority equipment you want to power in an outage to determine how much power you'll need during a power outage.

## 2 Where is there suitable space to install batteries?

Depending on the type, batteries may need to be located inside or outside. Your contractor may need to adjust the size of your battery system to accommodate your available space.

## 3 How long can the battery run without being re-charged?

The larger the battery, the longer it will be able to power your appliances and lights without being re-charged by solar PV or your homes power supply. Your contractor will help you decide on a battery size that works for the goals of your household.



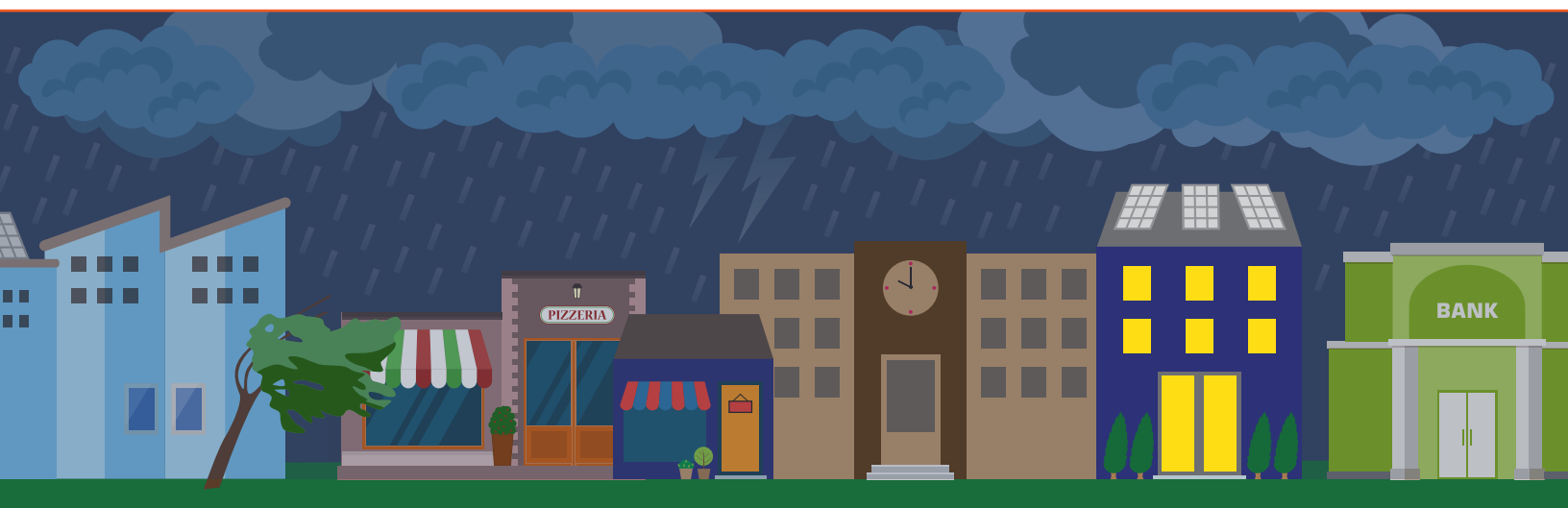
To learn more about Energy Storage Solutions or get started with an eligible contractor, visit <https://energystoragect.com/>



EVERSOURCE



This program is overseen by the Public Utilities Regulatory Authority (PURA), is paid for by ratepayers, and is administered by the Green Bank, Eversource, and UI.



## Introducing Energy Storage Solutions

Energy Storage Solutions is a new incentive program designed to help Eversource and United Illuminating customers install energy storage for their commercial, industrial and institutional properties. Installing a battery for your business, nonprofit or government facility can help you lower your building's peak demand to reduce energy costs. Batteries can also provide backup power when the electricity goes out to keep your lights on and your facility running without interruption. Upfront and performance-based incentives are available to reduce the cost of an energy storage system. **Additional value may be available for customers on the grid edge, critical facilities, facilities replacing fossil fuel generators, and small businesses.**

## Energy Storage Solutions Benefits

**Affordable:** With Energy Storage Solutions, there has never been a better business case for purchasing a battery system. Upfront and performance-based incentives allow you to save money at the time of purchase and earn over the life of your system. You could receive up to 50% off the installation price with additional performance incentive payments based on the average power your battery system contributes during critical periods. Visit <https://energystoragect.com/> for details.



**Resilient:** With battery storage, you're always ready for a storm. Keep your business or facility running so that you can continue to serve the needs of your customers or members.



**Cleaner & Quieter:** Unlike generators that run on fossil fuels, batteries are a cleaner, quieter option for powering your business during an outage. They're better for the environment and friendlier for your customers, members or constituents. Battery systems tied to new or existing solar PV systems can charge during an outage.



## How Do I Get Started?

Talk to an Eligible Contractor who will help you size and identify the best location for your battery system based on your facility's needs or the core function of your business. Your contractor will help you decide on a battery size that works for the goals of your facility.

### Commercial and Industrial End-Use Customer Upfront Declining Incentive Block Structure (2022-2024)



	Effective Upfront Incentive (\$/kWh)		
	Small Commercial	Medium Commercial	Large Commercial
Peak Demand	<200 kW	200 kW – 500 kW	>500 kW
Incentive for first 50 MW of Commercial Storage Projects	\$200	\$175	\$100

### Commercial and Industrial End-Use Customer Annual Performance-Based Incentive (2022-2024)



	Years 1-5		Years 6-10	
	Summer	Winter	Summer	Winter
Season Incentive (\$/kW)	\$200	\$25	\$115	\$15

To learn more about Energy Storage Solutions or get started with an eligible contractor, visit <https://energystoraget.com/>



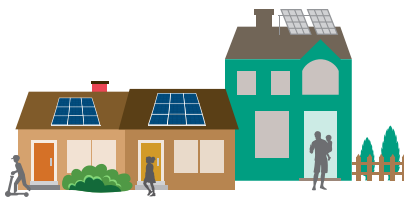
This program is overseen by the Public Utilities Regulatory Authority (PURA), is paid for by ratepayers, and is administered by the Green Bank, Eversource, and UI.



**Connecticut Green Bank is the nation's first green bank.** Our mission is to confront climate change and provide all of society with a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy. Established in 2011 as a quasi-public agency, the Green Bank uses limited public dollars to attract private capital investment and offers green solutions that help people, businesses and all of Connecticut thrive.

## our solutions

The Green Bank is helping Connecticut flourish by offering green solutions for homes and buildings, and by creating innovative ways to invest in the green economy.



### homes



Empowering all Connecticut families and households with accessible and affordable green solutions that bring them comfort and security. Find incentives for battery storage or use the Green Bank's flexible financing to reduce costs with health and safety improvements and the newest energy efficient technologies.



### buildings



Creating stronger, more resilient communities with green solutions for buildings of all types, from businesses and nonprofits to multifamily housing and local government. Leverage Green Bank financing to save money and realize the benefits of more modern, sustainable buildings.



### investments



Securing a healthier planet with smart ways for individuals and businesses to invest in green solutions – and our future – while also earning a return. Energize the green economy by investing in it today. Buy a Green Liberty Bond, invest through a crowdfunding offering, or join the movement by finding other ways to invest.



# Decennial Societal Impact Report

FY12  
FY21

Since the Connecticut Green Bank's inception through the bipartisan legislation in July 2011, we have mobilized more than **\$2.14 billion of investment** into the State's green economy. To do this, we used **\$288.4 million** in Green Bank dollars to attract \$1.85 billion in private investment, a leverage ratio of **\$7.40 for every \$1**. The impact of our deployment of renewable energy and energy efficiency to families, businesses, and our communities is shown in terms of economic development, environmental protection, equity, and energy (data from FY 2012 through FY 2021).

## ECONOMIC DEVELOPMENT

**JOBS** The Green Bank has supported the creation of more than **25,612** direct, indirect, and induced job-years.



### TAX REVENUES

The Green Bank's activities have helped generate an estimated **\$107.4 million** in state tax revenues.

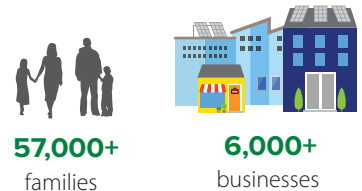


**\$52.8 million**  
individual income tax  
**\$27.5 million**  
corporate taxes  
**\$27.1 million**  
sales taxes

## ENERGY

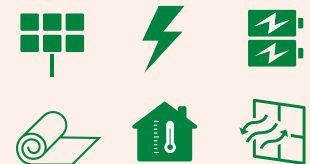
### ENERGY BURDEN

The Green Bank has reduced the energy costs on families, businesses, and our communities.



### DEPLOYMENT

The Green Bank has accelerated the growth of renewable energy to more than **494 MW** and lifetime savings of over **64.1 million MMBTUs** through energy efficiency projects.



## ENVIRONMENTAL PROTECTION

**POLLUTION** The Green Bank has helped reduce air emissions that cause climate change and worsen public health, including **9.3 million pounds** of SOx and **10.7 million pounds** of NOx.



**9.9 MILLION**  
tons of CO<sub>2</sub> :  
**EQUALS**

**163 MILLION**  
tree seedlings  
grown for 10 years

OR

**2.1 MILLION**  
passenger vehicles  
driven for one year

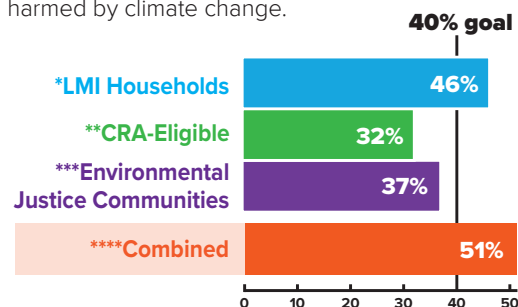
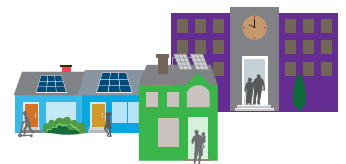
**PUBLIC HEALTH** The Green Bank has improved the lives of families, helping them avoid sick days, hospital visits, and even death.

**\$298.1 – \$674.1 million of lifetime public health value created**



## EQUITY

**INVESTING** in vulnerable communities, The Green Bank has set **goals** to reach **40% investment** in communities that may be disproportionately harmed by climate change.



\*LMI Households – households at or below 100% Area Median Income.

\*\*Community Reinvestment Act (CRA) Eligible – households at or below 80% of Area Median Income and all projects in programs designed to assist LMI customers.

\*\*\*Environmental Justice Community means a municipality that has been designated as distressed by Connecticut Department of Economic and Community Development (DECD) or a census block group for which 30% or more of the population have an income below 200% of the federal poverty level.

\*\*\*\*Combined Vulnerable Communities include LMI, CRA and EJC.



Learn more by visiting [ctgreenbank.com/strategy-impact/impact](http://ctgreenbank.com/strategy-impact/impact)

Winner of the 2017 Harvard Kennedy School Ash Center Award for Innovation in American Government, the Connecticut Green Bank is the nation's first green bank.

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Sources: Connecticut Green Bank Annual Comprehensive Financial Reports.